

REMARKS

Initially, Applicants thank the Examiner for the indication of allowability of Claims 12-17, 19, and 22-24, as well as the indication of other allowable claims 28, and 35-38 if written in independent form.

I. Status of the Claims.

Claims 1-8, 11-17, 19, 21-25, and 27-41 are pending in the present application. This Response and Amendment amends Claims 1 and 27.

II. Claim Amendments.

Claim 1 has been amended to recite that “the sidewall and the bottom wall are of a unitary construction”. The unitary construction of the container, i.e., meaning that the bottom wall and the sidewall are one-piece, is shown in Figure 4. Accordingly, this amendment does not add new matter. Entry of the amendment to claim 1 is respectfully requested.

Claim 27 has been amended to add the express limitation of a sidewall, “wherein the sidewall and the bottom wall are of a unitary construction”. The unitary construction of the container, i.e., meaning that the bottom wall and the sidewall are one-piece, is shown in Figure 4. Accordingly, this amendment does not add new matter. Entry of the amendment to claim 27 is respectfully requested.

III. The Rejection Under 35 USC § 112.

The Office has rejected Claims 1-8, 11, 21, 25, and 41 under 35 USC § 112 for the reasons stated in numbered paragraph 3 of the Office Action. The language that the Examiner asserted was new matter is deleted with this Response and Amendment. Withdrawal of the rejection on this basis is respectfully requested.

IV. The Rejection Of Claims 1-5, 11, 21, 25 and 41 Over Pieper et al., In View Of Mehl et al., And Markell et al.

Claims 1-5, 11, 21, 25 and 41 stand rejected Under 35 USC § 103 as being unpatentable over Pieper et al (US Pat. No. 5,391,298) in view of Mehl (US Pat. No. 4,774,058) and Markell et al (US Pat. No. 5,279,742) for the reasons stated in numbered paragraph 5 of the Office Action. The Applicants respectfully traverse this rejection on the basis that the Examiner has not established a *prima facie* case of obviousness for the

reasons set forth below. Applicants respectfully request reconsideration and allowance of Claims 1-5, 11, 21, 25 and 41 based on the following remarks.

A. Neither Pieper, Mehl, Nor Markell, Alone, Nor In Combination Disclose a Container Having a Sidewall And A Bottom Wall With A Unitary Construction.

Claim 1 is limited to “a container having an entrance, an exit, a sidewall, a bottom wall . . . , wherein the sidewall and the bottom wall are of a unitary construction,”

Neither Pieper, Mehl, nor Markell, alone, nor in combination disclose a container having a sidewall and a bottom wall with a unitary construction.

As shown in Figure 3 of Pieper, the housing (18) is made of two-pieces, the first half and the sidewall (20), and the second half and the bottom wall (22) are in two-separate pieces, not of a unitary construction as claimed by Applicants.

Mehl discloses a fluid filter (10) having a filter disc (18) at its lower end. As seen in the cross-sectional view of Figures 2 and 9, the filter disclosed by Mehl has an open end (14) and a lower opening (16). The lower opening is closed with a filter disc (18) inserted as by pressure into the end 16 of the support (12). The apparatus described in Mehl does not have a bottom wall as claimed by Applicants. The end (16) is expressly described as “open”, and the Mehl apparatus comprises a side wall (i.e., support member 12) which ends at the opening (16). There is, in fact, no bottom wall described. The opening (16) in Mehl is closed with a filter disc (18), which is made of porous material (col. 3, line 19) and does not have a centrally located opening. Thus, a container having a sidewall and a bottom wall with a unitary construction is not disclosed in Mehl.

Markell et al. discloses an extraction media disk, which also does not describe a container having a sidewall and a bottom wall with a unitary construction and does not remedy the deficiency of Pieper or Mehl. Accordingly, the combination of Pieper, Mehl and Markell et al. does not disclose all the elements of the invention and the Office has not established a prima facie case of obviousness.

B. There Is No Motivation To Modify The References To Arrive At A Container Having A Flat Bottom Surface As Claimed By Applicants.

As admitted by the Examiner, Claims 1-5, 11, 21, 25 and 41 differ from the apparatus of Pieper et al in reciting a bottom wall of the container having a flat internal

surface, as claimed by Applicants. The Examiner states in support of the reasoning to modify Pieper that:

Piper et al shows a container having a conical bottom wall in Figures 2-3. Such conical bottom wall inherently enhances the fluid flow out to the exit by sheer downwardly inclined wall toward the exit. Piper et al teach that a restriction of fluid flow through the housing allow a liquid layer to build up in the housing which completely immerses the extraction medium (see col. 2, lines 43-59). Changing the configuration of the bottom wall on the container from a conical shape to a flat surface would have been obvious to a person of ordinary skill in the art to effectively restricting the fluid flow in the container to build up liquid layer in the housing to immerse the extraction medium as suggested by Piper et al. Office Action, page 4.

Applicants respectfully submit that the Examiner's statements above in support of the motivation to modify Pieper are not supported by a reading of Pieper, and are not supported by common knowledge. Applicants request that the provide support for the findings with adequate evidence, or withdraw the rejection.

Initially, the Examiner states "Piper et al shows a container having a conical bottom wall in Figures 2-3. Such conical bottom wall inherently enhances the fluid flow out to the exit by sheer downwardly inclined wall toward the exit." This statement may be true. However, as it is known to those of skill in the art, the flow pattern of a fluid undergoing a slow flow in a packed bed of particles, as is the case in the present invention, depends on the morphology (i.e., the topology and geometry) of the pore space that is available for the flow. If there is enough of a restriction on the fluid flow from the bottom, as shown in Pieper by a "restrictor" (46), or by the media itself, the flow rate will decrease. However, it is not a well supported conclusion that a container with a flat bottom would restrict the flow of fluid enough to effectively restrict the fluid flow in the container to build up a liquid layer in the housing to immerse the extraction medium, as suggested by the Examiner. The assertion that a container having a flat bottom surface would effectively restrict the fluid flow in the container to build up a liquid layer in the housing to immerse the extraction medium is not officially noticed and is not properly based on common knowledge. Applicants request that the Examiner provide support for the findings with adequate evidence, or withdraw the rejection.

Further, all of the embodiments of extraction apparatus in Pieper et al. are pressurized systems. The motivation that the Examiner has supplied for modifying Pieper et al. to arrive at Applicant's invention would not be applicable to at least one of Applicant's embodiments, i.e., the embodiment having a top open to the atmosphere. Thus, the teachings of Pieper would not work in Applicant's invention and there is no motivation to modify or combine Pieper et al. to Arrive at Applicant's invention.

Pieper et al. teaches that restriction of the fluid flow is in some manner variable or reversible by pressurization of the system. For example, in Pieper et al., first, the SPE disk is immersed in the liquid that is passing therethrough. After the SPE is immersed in liquid, the system is pressurized by a variety of means so the liquid flows through the SPE disk. See, e.g., col. 2, lines 35-60, and col. 5, line 55 through col. 6, line 18. These pressurized systems would be inapplicable to at least one of Applicant's embodiments, i.e., the embodiment having a top open to the atmosphere. If Applicant's unpressurized system built up a liquid layer as described in Pieper et al., the fluid would overflow the container and the separation would not be successful. Accordingly, there is no motivation to modify Pieper et al. to arrive at Applicant's invention.

C. The Claimed Apparatus Has A Superior Flow Pattern.

Applicants do not concede that the Office has established a *prima facie* case of obviousness. However, inasmuch as such a *prima facie* case of obviousness may exist, the *prima facie* case is rebutted by a superior property of the apparatus.

As described on pages 8-9 of the Specification, the apparatus having a flat bottom wall confers a superior property to the present apparatus. The superior properties of the claimed apparatus include substantially no channeling, efficient fluid transmission, and the homogenous absorption of compounds of interest in extraction media. Neither Pieper, Mehl, nor Markell et al. teaches or suggests the use of a flat bottom wall and these references do not teach or suggest that such a construction would confer the superior properties found by the Applicants. In view of this, Claim 1, and Claims 4-5, 11, 21, 25 and 41 which depend from Claim 1 are non-obvious over Pieper in view of Mehl and Markell et al.

In view of the foregoing, the Applicants respectfully request that the rejections of claims 1-5, 11, 21, 25 and 41 under 35 U.S.C. § 103(a) be withdrawn.

V. The Rejection of Claims 27, 29-33, and 39-40 Over Pieper et al.

Claims 27, 29-33, and 39-40 stand rejected Under 35 USC § 103 as being unpatentable over Pieper et al (US Pat. No. 5,391,298) for the reasons stated in numbered paragraph 6 of the Office Action. The Applicants respectfully traverse this rejection on the basis that the Examiner has not established a *prima facie* case of obviousness for the reasons set forth below. Applicants respectfully request reconsideration and allowance of Claims 1-5, 11, 21, 25 and 41 based on the following remarks.

A. The References Do Not Disclose a Container Having a Sidewall And A Bottom Wall With A Unitary Construction.

Claim 27 is limited to a container having a sidewall and a bottom wall "wherein the sidewall and the bottom wall are of a unitary construction"

As stated above in reference to the rejection of Claim 1 in section IV.A. above, neither Pieper, Mehl, nor Markell, alone, nor in combination disclose a container having a sidewall and a bottom wall with a unitary construction. The same arguments apply to the rejection of Claim 27. Applicants request withdrawal of the rejection of Claim 27 and claims 29-33 and 39-40 depending from Claim 27 on this basis.

B. There Is No Motivation To Modify Pieper to Arrive At A Container Having A Flat Bottom.

Claim 27 is limited to a container having a bottom, the bottom having an inner wall which is flat. As stated in section IV.B. of this paper, Applicants request that the Examiner provide support for the findings with adequate evidence, or take judicial notice of the fact that a container having a flat bottom surface would effectively restrict the fluid flow in the container to build up a liquid layer in the housing to immerse the extraction medium is, or withdraw the rejection. As also stated in section IV.B. of this paper, Pieper et al. does not supply the motivation to modify the reference to arrive at Applicants invention of a container having a flat bottom. Applicants request withdrawal of the rejection of Claim 27 and claims 29-33 and 39-40 depending from Claim 27 on this basis.

C. The Claimed Apparatus Has A Superior Flow Pattern.

Applicants do not concede that the Office has established a *prima facie* case of obviousness. However, inasmuch as such a *prima facie* case of obviousness may exist, the *prima facie* case is rebutted by a superior property of the apparatus, as stated above in

section IV.C. above. Applicants request withdrawal of the rejection of Claim 27 and claims 29-33 and 39-40 depending from Claim 27 on this basis.

CONCLUSION

Applicants believe that all pending claims are in condition for allowance and a Notice of Allowance of all claims is respectfully requested. If, however, there remain any issues which can be addressed by telephone, the Examiner is encouraged to contact the undersigned at the telephone number listed below.

Please charge any fees due in connection with this Amendment or credit any overpayment to Deposit Account No. 19-2090.

Respectfully submitted,

SHELDON & MAK PC

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